THE
VETERINARY JOURNAL

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Biography

MR. J. CLARKSON, M.R.C.V.S.

A " PRESIDENT " must always feel a certain sense of relief when his term of office is over, as to be the ostensible head of any body of men (the man " to be shot at " in the event of any faults being found) means responsibility ; and the sense of responsibility, if taken up seriously, implies that there is a duty to be done which occupies time one might be otherwise utilizing for personal gain, pecuniary or otherwise. The President of a profession like ours, if a practitioner, has, too, to think of his duty to his clients, whose interests have to be borne in mind and arranged for. In any event, the man who, whilst still in harness, accepts the honour of an office like this is taking upon himself something which will strain his resources of health and time to the uttermost.

Mr. Clarkson has a large and busy practice in Yorkshire, the distance of which from London must in itself have been somewhat of a handicap, for his year of office has necessitated a good deal of time spent in travelling which would not otherwise have been incurred. Although during the past year there has been no very great disturbance or cause for anxiety in the course of professional progress, there have been the thousand and one petty details for the successful carrying out of which the President is responsible ; details which an experienced and enthusiastic Secretary and a loyal Council can always very much simplify.

Two great landmarks have occurred in the history of the profession during Mr. Clarkson's year of office, and they are both things which

are of a lasting nature: viz., the introduction of academic dress for the use of the members of the profession when attending Civic or other Public functions, which marks an advance in the way of bringing us into line with the other learned professions; and the laying of the foundation stone of the Institute of Animal Pathology at Cambridge, which was carried out by Mr. Clarkson in his capacity as the official head of the profession.

His term of office now being over, he can return to his home affairs with the knowledge of duty done, with an assurance that he retains the esteem not only of his colleagues in Yorkshire, where he was always popular, but also of the rank and file of the profession, whose votes have for so many years been evidence of the confidence which they have placed in his judgment on each occasion when he has been a candidate for the Council of the Royal College.

Editorials

VETERINARY PRACTICE IN OUR COLONIES.

Amongst the General Articles in this month's number will be found two of especial interest to those of our members whose thoughts turn to the Colonies for opportunity to earn a livelihood in the practice of their profession. As the examinations have just passed, they will be of particular importance to the young graduate, for they will demonstrate to him very clearly the wisdom of not leaving England except in an official capacity. They show, too, that the time is not far distant when each of our Colonies will be self-supporting in regard to the supply of their Veterinary Officials, and, what is more to the point, the English Diploma, by which a man becomes a Member of the Royal College of Veterinary Surgeons, will have to be supplemented by the local distinction before permission is officially granted to practise. As in the case of Meat Inspection, some of our Colonies are already in advance of Great Britain in that the Veterinary Course is not only compulsorily one of five years after matriculation, but the degree to be taken, even if only to permit one to practise legitimately, has to be that of a University.

The one thing which seems uniform throughout, and in which the example set by Great Britain is unfortunately followed, is that the salaries and emoluments in the majority of instances compare unfavourably with those of the other learned professions. We forget, as a body, that our motto is "*Vis unita fortior*," and that if we only abide by it we can command our own terms; for the prevention of

disease amongst the animals is as essential to the economic welfare (and indeed to the life) of the country, as is the prevention of disease in man. The two, if a country is to prosper, must run side by side, for the one cannot possibly get on successfully without the other. Although there will always be a certain number of veterinarians for private practice, there is no doubt that the main outlook for our young graduates in the future lies in the direction of those special branches which deal with the prevention of disease. The way in which Scotland has recently taken up the appointment of Veterinary Officers of Health in its counties and districts must eventually be followed by its neighbour on this side of the Tweed; but we in England are slow to move, very conservative, needing always a lot of time to think out anything which appears to be new or out of the ordinary. The subject of veterinary practice in our Colonies has such an important outlook for the student and future graduate that it is our early intention to devote an entire " Special Number " to this subject, and we invite our readers to send us their candid and unbiassed opinions, in order that we may assist them in putting right their grievances, and that our young men may leave our shores with their eyes fully open.

THE PUBLIC ABATTOIR QUESTION AND VETERINARY INSPECTORS.

WE draw the attention of our readers to a resolution on page 435 which was unanimously passed at the recent Congress of the Sanitary Institute, urging upon the Ministry of Health the necessity for the establishment of Public Abattoirs throughout the country, and the *ante-* and *post-mortem* inspection of all animals intended for human food, by properly qualified men. After the example which our Colonies and all civilised Continental countries have given us, and the progress, too, which Scotland has made in this direction, one would think that such a resolution as regards England would be unnecessary—but such is our backwardness in Public Health matters, that it is not yet even authoritatively recognised by those in Government control of the subject that the proper man (indeed the *only* man) qualified to give expert judgment upon the healthy condition (or otherwise) of the flesh of animals intended for human food, is the trained veterinarian.

Resolutions such as this have been passed at meetings of our own profession, and the butchers themselves have on numerous occasions, when they have been together, expressed their desire to have the flesh of their animals inspected by veterinary inspectors. *Ante-mortem* inspection is just as essential as *post-mortem*, and no man is

more alive to the fact than the butcher; for where such is the law, he only purchases on condition that the animal is " passed," thus being protected against any fear of loss from this side. Once get *ante-mortem* inspection passed as a legal necessity, the fully qualified veterinarian will come into his own, for no one will dare to gainsay the fact that in this, at any rate, the opinion of a layman cannot possibly be quoted seriously in rivalry.

ANOMALIES OF MEAT INSPECTION IN THE ARMY AND NAVY.

We draw the particular attention of our readers to an article, " Meat Inspection—Anomalies, and in Relation to the Army and Navy," by Sir John Moore in this month's issue.

When one combines this article with the resolution proposed by Alderman Phené Neale of the London City Council, which was carried unanimously at one of the meetings of the recent Sanitary Congress held in London, one is able to form some idea of the anomalies which exist at the present time in this country in regard to the inspection of food.

Indeed, as Sir John Moore states in his article, " The whole story of meat inspection in Great Britain and Ireland is one of overlapping, a sixes and sevens procedure, a mixture of evidence varying with locality or interest, uneconomic, and minus the hall-mark of efficiency as a whole."

Unfortunately it is only too true, as Captain Ross Grant, B.V.Sc., the Australian Veterinary Officer who is officially posted in this country to watch the imported meat trade on behalf of the Australian Government remarked at the Sanitary Inspectors' Conference, " that this country is a hundred years behind the times."

The " Services " have no excuse for their present inefficient method of administering this inspection; at any rate in so far as the Army is concerned in places or districts where large bodies of troops are collected together, and in so far as the Navy is concerned, at ports; for in each of these instances the services of a properly trained and qualified veterinarian is almost always available; and surely, the veterinarian is, of all officers in the Service, the man who is best qualified to give an opinion as to whether meat is, or is not, the subject of disease.

At the present time meat inspection in the British Army is carried out, in a kind of fashion, by officers of the R.A.S.C., certain of whom pass through the usual brief course of the Sanitary Institute. That their knowledge must be very superficial is only too obvious; for it

is not possible for any man, with six months' training only, to learn even his own ignorance.

In the Navy, as Sir John says, the anomaly is even more "Gilbertian," for it is the Paymaster upon whom the responsibility of inspecting the food for the sailors is put! and as regards the Air Force the necessity for any systematic meat inspection has not yet apparently been realised.

In the new United States Army Veterinary Corps, the duty of meat and milk inspection is definitely allotted to the Veterinary Officer.

Truly, we are a curious race! but for further details bearing on this particular anomaly, we refer our readers to a careful perusal of the article itself.

THE LADY GRADUATES.

THE entrance of two more lady graduates into the veterinary profession may indeed be taken as a "sign of the times," for of all the professions it might excusably be thought that the veterinary profession was the one least likely to be invaded by the fair sex.

Nowadays, however, either by the chivalry of man or the dogged persistence of woman, there is no door (in this country at any rate) which they may not enter, and the competition for a livelihood gives equal scope for the survival of the fittest.

In order to obtain the Diploma and be declared competent to practise "the science and art of veterinary surgery" it is necessary that the student, whether male or female, shall pass through a course which comprises a knowledge of the diseases of *all* the domesticated animals; which means, of course, that the lady veterinary student must have as definite a knowledge of the larger animals, such as the horse and cow, as of the smaller and more easily handled dog and cat; not that the diseases of the smaller animals, or those of the bird, are the only ones for which our lady graduates are fitted, but it cannot be denied that there are certain limitations in a farming or country practice by which the delicate sex must of necessity find themselves somewhat heavily handicapped.

To the sporting woman, it may be that the idea of a hunting practice will appeal very strongly, but a hunting practice nowadays does not necessarily confine itself to hunters and hunting folk; and even in the best districts of Great Britain there are certain places in the Day Book which have to be filled, in order to make a decent livelihood, by attention to the animals of the farm. This involves calving cases, the catching and casting of rough, unbroken colts,

and such like things, which require considerable manual strength, not to mention exposure to all weathers and inclement conditions.

For laboratory work and canine practice, the lady graduate is as well fitted as her male compeer, and it is not exaggerating the point to say that an excellent competency awaits the first twenty or thirty ladies (if they will acquire by pupilage and assistantship, the tact to manage clients and a knowledge of the everyday diseases of the dog and cat), who will set up in private practice in this direction in the larger towns or seaside centres where dogs and their owners congregate.

Now that we have four lady graduates, all fully equipped with the Diploma of M.R.C.V.S. (and one of them graduated in the final examination with Honours) the time is not far distant when the men will have to look to their laurels.

It is scarcely necessary to say on behalf of the whole profession that we wish them success in the new career which they have chosen, and we shall look forward in the hope that, when the history of the veterinary profession is written by some future historian, their names will figure amongst those who have added some new brick to the edifice of veterinary science.

General Articles

THE VETERINARY PROFESSION IN NEW ZEALAND.

By H. A. REID, O.B.E., F.R.C.V.S., D.V.H., F.R.S.E.

It is perhaps advisable when discussing the present position and prospects of our profession overseas to introduce the subject by a few remarks regarding the country concerned.

So much depends upon environment that without some allusion to the character of the surroundings a review of this nature is incomplete.

New Zealand, the most remote of the British Dominions, seems, if we are to judge by popular opinion, to possess, in comparison with other parts of the Empire, some special attraction.

Possibly distance lends enchantment to the view and the fact that relatively few people have visited the country may also account for the interest displayed and some of the illusions cherished concerning it.

An atmosphere of romance, too, has been created in the popular mind, which associates New Zealand with scenes of ineffable grandeur, with volcanoes and boiling geysers, with primeval forests, and with

snow-capped ranges reflected in the deep waters of vast mountain lakes.

The country is generally considered to be largely inhabited by Maories—descendants of a warrior race whose history is enriched by fascinating legendary lore.

Above all, New Zealand is supposed to enjoy an ideal climate where perennial sunshine fashions rainbows out of summer showers, and tempers the bite of the winter wind.

Such is the popular conception so far as can be gathered from conversations with intelligent persons whose knowledge for the most part has been derived from studying the displays of produce, etc., decorating the windows of the Government Office in the Strand, or from reminiscences of the New Zealand pavilion at Wembley Exhibition. But to the great majority New Zealand remains an undiscovered country, save for the reputation it has achieved for its mutton, lamb, and football.

This attitude of mind of the average Englishman is not surprising when we consider the distance of New Zealand (10,000 miles), the smallness of its population (1,400,000), and the stress of life nowadays in this, the heart of the Empire, all of which tend to distract attention from things which appear not directly to concern us.

The facts are rather different from what the popular imagination has depicted.

New Zealand is a country with an immense variety of scenery, generally of the wild and rugged order, which its sparse population often renders devoid of human interest. There are only 62,000 natives, or Maories, and these are chiefly confined to the North Island, and elsewhere may seldom be seen. They represent the remnants of probably the finest warrior race both as regards physique and character, that ever has been. But fighting, being no longer a vogue, the Maori does not as a rule direct his attention to what we now hold to be the more worthy objects of life. He has become a negligible quantity in the things that matter in the world to-day.

There can be no greater misconception than to picture New Zealand's climate as ideal. True, there is more sunshine than these isles enjoy. But the characteristics over the greater part of the country are excess of moisture and tempestuous gales. The winds are at their worst in summer time and frequently mar what otherwise would be a perfect day. Though perhaps healthy, these winds are extremely annoying, and account while they last for an increase in nervous irritability and its concomitants. Winter days are often bitterly cold, and the long periods of wet weather are depressing. The climate is, if anything, more changeable than that of England

and lacks that calmness of atmosphere which is one of the most attractive features of the British Isles. Low winter temperatures accompanied by frost and snow, are not usually met with, except in the southernmost parts of the country. All parts are healthy and eminently suitable for Europeans.

Life generally in New Zealand may be described as agreeable, especially to those accustomed to a purely country life and over whom the fascination of the town has not cast its spell.

In regard to sport, the finest fishing in the world is obtainable, and beyond a small annual licence, is free to all. Shooting, except for deer, is of a poor order, there being very little ground game left in the country. Games of every kind are played, and sports clubs on the whole are less expensive than in England. There are a few packs of hounds (harriers) and polo is played to some extent in certain parts.

Horse-racing is one of New Zealand's principal industries.

Its veterinary history with which we are more immediately interested, may be said to date professionally from 1894, when the New Zealand Government decided to obtain the services of a competent veterinarian to investigate those diseases of stock prevalent in the country.

In this year Dr. J. A. Gilruth was appointed as Chief Veterinary Adviser. Veterinary science in New Zealand will always be associated with the name and pioneer work carried out by Gilruth, or under his administration. A strong personality, combined with skill and indefatigable energy, rendered Gilruth's abilities as an investigator pre-eminent in the field of veterinary science at that time.

In the following year Mr. A. Park, M.R.C.V.S., was appointed to assist Gilruth in his task. Mr. Park's observations, especially in relation to tuberculosis, are a record of valuable achievement. Unfortunately, Park died in 1900. He was succeeded by Dr. C. J. Reakes, who now holds the appointment of Director-General of the Department of Agriculture.

Nine years later Gilruth resigned to become Principal of the Melbourne Veterinary School, and subsequently was offered, and accepted, the honour of Administrator of the Northern Territory of Australia.

In 1900 the passing of the Slaughtering and Inspection Act initiated a new era in the meat industry of the country, and led to an influx of veterinarians engaged by the Government to administer the Act. Gilruth, who returned to England to select applicants for posts under this Act, found much difficulty in securing suitable men, partly owing to the fact that the South African war had absorbed so many members of the profession, and partly because the meagre

salary of £250, without any provision for retirement, naturally proved unattractive. However, the fact that some were attracted from a spirit of adventure which the thought of new countries inspire, others from a love of travel, and some, no doubt, because they were unable at the time to secure anything better, enabled a sufficient number of M's R.C.V.S. to be engaged, and these set sail for New Zealand. Very few of the original number remain in the Service to-day. The majority, after a time, resigned chiefly on the grounds of insufficient remuneration and lack of prospects of any material improvement taking place.

In these early days the work of investigating animal disease was conducted under the most adverse conditions. Gilruth's laboratory consisted of a small wooden building, situated in the heart of Wellington. This was shared by the agricultural chemist, and served also as an office for the clerical staffs, so that laboratory work was greatly hampered by want of space, overcrowding, and unsuitable surroundings. In these inadequate premises much valuable information was acquired concerning the ailments of stock, some of which had up till then either remained unrecognised, or their precise nature undetermined.

In 1904 the New Zealand Government decided to adopt the recommendations which had been repeatedly offered on the subject, and to erect and equip a veterinary laboratory. The site selected was in the valley of the River Hutt, 19 miles from Wellington, and accessible only by a very indifferent railway service. It represented, however, a vast improvement upon the former accommodation, besides indicating a growing recognition of the need for progress in regard to veterinary research.

The vacancy caused by Gilruth's resignation in 1909 was filled by the appointment of Dr. C. J. Reakes. The department all this time had laboured under the disadvantage of dual control—much of the field work being carried out by lay stock inspectors, who were not under professional supervision. Reakes' endeavours to remedy this unsatisfactory state of affairs finally brought about reform and placed the Stock Inspectors under the direction of the Veterinary Staff.

The Department of Agriculture was reorganised after the war. Reakes was appointed Director-General and the four senior veterinarians were made District Supervisors to have charge and direction of all duties relative to livestock in their respective districts, with the assistance of staffs of field veterinary officers and meat inspectors. The lay stock inspectors also were included in this charge. The direction of the Veterinary Division, known as the Livestock Division, was vested in a Veterinary Director. The

destinies of the profession, it will be gathered, are closely linked with the State service. Of the 51 M's R.C.V.S. registered as residing in New Zealand, half the number are employed by the Government.

The question may be asked: How are these men employed and under what conditions?

With the exceptions of the Director, four Supervisors, and some half-dozen Field Inspectors, the remainder for the greater part of the year carry out the duties of meat inspection at the Meat Export Works, or at some of the larger municipal abattoirs.

The conditions of appointment are that they devote the whole of their time to the State services. Private practice is not allowed. Any remuneration received from outside sources must be paid into the public account.

Veterinary surgeons are at present engaged at a salary of £400 to £490. Deductions for superannuation are made. The retiring age is 65, and the maximum pension £300. New Zealand is far from being a poor country, but it is embarrassed by an inordinate civil service in proportion to the population, and saddled with a national debt of £214,000,000. Moreover, there seems to be a conviction that veterinary surgeons should be able to live on less than other professional classes. The New Zealand Government in common with some other employers, has not appreciated what was pointed out some time ago in the *Veterinary Record*, i.e. :—

> "If you offer meagre emoluments you cannot expect first-class officers, and if you have second or third-class officers to carry out State work, you will inevitably have that work performed less efficiently, and therefore less economically."

Mr. Charles Travis, the editor of the *British Railway Engineer*, who, not long ago, toured New Zealand and parts of Australia as Secretary to the Royal Commission on Railways, remarks that there is little inducement for highly-trained professional men to go to New Zealand. He says :—

> "In New Zealand and in Australia you pay your unskilled labourers almost as well as your professional men, who are shockingly underpaid in comparison with other and older countries. Obviously, if a man has to pay a large amount for his training, and to devote years of his life to equipping himself, he should be able to command something better than the salaries in these newer countries."

It is unfortunate that the New Zealand Government is not prepared to attract the best talent in the profession by the offer of more adequate remuneration. In contrast with Great Britain it is true that living in New Zealand costs to-day probably less. Commodities,

especially articles of clothing, furniture, and household effects, cost considerably more. Rents are high—unreasonably so when applied to the iron-roofed, wooden houses which constitute the prevailing dwelling.

Direct taxation is comparatively low. The income tax on average incomes is one shilling in the pound, and this recently has been still further reduced by 13⅓ per cent. The usual deductions are allowed. But indirect taxation levied principally on imports is high, and this and the high cost of labour account chiefly for the fact that New Zealand is not a cheap country. On the other hand, there are fewer inducements to spend, a compensating factor which may not, in the eyes of some people, add to the attractiveness of life in the antipodes.

Those of cultivated tastes will feel the loss of some of the amenities and refinements which they are able to enjoy in Europe, though after a few years the majority are able to rest content with what the country can offer in these respects.

New Zealanders have a well-merited reputation for hospitality and good fellowship. The educated New Zealander, of democratic principles, and entirely free from affectation and the mannerisms which often characterise the homelander of a similar station in life, may be relied upon to offer a warm welcome to fresh arrivals; so that the social life is, as a rule, very pleasant and agreeable.

The veterinary profession has no legal status in New Zealand. Anyone may practise. It is to be hoped that this anomalous position will soon be rectified both in the interests of the profession and the public. But in a country to a large extent politically controlled, a handful of men cannot be expected to exercise much influence with the legislature, especially when the proposed enactment is calculated to prejudice the unqualified practitioners who will look to their respective M.P.'s for protection by opposing the Bill.

Public opinion requires to be aroused, and this is not an easy task among people who seem frequently to prefer the dogmatism of the quack to the more guarded methods of one acting under a sense of professional responsibility.

The scope for private practice, though not at present very great, must needs improve as time goes on, and the country becomes more thickly populated. The homesteads are scattered, and only relatively few cases can be attended in the course of a day. Repeated visits are not generally encouraged. Advice and the line of treatment to be adopted must be given and a reasonable fee charged. It is seldom possible to follow up a case in the customary manner, and there is consequently an absence of that sense of professional keenness and satisfaction, the outcome of interest. Generally speaking, the more

elaborate and detailed methods of treatment are not applicable owing to the conditions under which animals are kept and their relatively lower market value.

The work lies principally among cattle and sheep. Horses, particularly thoroughbreds, also offer the practitioner a fair field. There is a limited amount of canine practice available in the larger towns. In competition with the unqualified practitioner the New Zealand farmer usually has the good sense to employ the qualified man when he appears to be competent and practical.

In conclusion, it is hoped that these few observations may prove of interest to any members of the profession who may feel disposed to seek fresh fields for their activities in the outlying parts of the Empire. It is an attempt to indicate the conditions under which they may live and work in a country which, more than any other, approximates closely that of Great Britain.

THE PRESENT-DAY POSITION OF VETERINARY SCIENCE IN SOUTH AFRICA.

By RICHARD METTAM, B.Sc., M.R.C.V.S.,
Professor of Anatomy in the Faculty of Veterinary Science, University of S. Africa.

In the quarter century that elapsed between the conclusion of the South African War and the graduation of the first veterinarians from the Faculty of Veterinary Science of the University of South Africa, the veterinary services in this country have been almost entirely supplied by graduates from the British veterinary schools, and to a lesser extent from the Continent.

Most of these veterinarians were British by birth, but about the time of Union (1910) a few South Africans were sent overseas mainly by the aid of Government bursaries to qualify either in the British Isles or on the Continent.

The number, however, was never very great and the supply irregular, so that up to 1924 qualified men were asked for from Europe not only to satisfy the veterinary needs of the Union, but also, later, of the mandated territory of South West Africa.

Reference to the Calendar of the Royal College of Veterinary Surgeons shows that in 1923 there were 97 veterinarians in the Union, four in South West Africa and one each in Swaziland, British Bechuana- and and Basutoland (these three Protectorates are still administered by the Imperial Government and are not yet incorporated in the Union). Of this number only 31 were not in the Government service, and of these some were either in municipal service, retired from practice or their whereabouts unknown. At any rate there are not

more than 25 practitioners in Southern Africa. This number may appear very small, but it must be remembered that South Africa is a land of long distances with towns few and far between. The Official Year Book of the Union (1925) shows that the white population is about 1,611,000, which is scattered over 472,347 square miles. The paucity of the population can well be illustrated by comparison with the density of the population in the British Isles and the Netherlands, whereas Belgium has 665·12 persons to the square mile, Holland 537·77 and the United Kingdom 482, the Union of South Africa has only 14·67 (including natives). It will now be readily agreed that conditions make it impossible for there to be any opportunities for country practice as carried on in Europe. The great distances not only between towns, but also between farms make it an uneconomic proposition. With a few exceptions, therefore, the general practitioner is only found in the five largest towns and, here again, opportunities are limited, for in comparison with the large towns of Europe and America, South African towns are small. Johannesburg, with a white population of 151,000, has 10 qualified practitioners, Capetown (113,000) has five, Durban (57,000) has four, while Pretoria (45,000) and Port Elizabeth (25,000) have three each. Unless it is remembered that the above figures are only indicative of the number of graduates of the Royal College, and that no estimate has been given of the number of practitioners with diplomas or degrees other than conferred by the R.C.V.S., an erroneous impression may be received. Moreover, South Africa has her share of "quacks" or unqualified persons, some of whom enjoy good practices not only in the larger towns, but also in some of the outlying country districts. The number of practitioners, qualified or otherwise, who are not in the Register of the Royal College is not exactly known, but enough has been written to show that opportunities are very limited for the private practitioner, and in view of the fact that South Africa is now qualifying her own men, there are at present very little prospects in this country for those who would care to settle down as practitioners.

By far the greatest number of veterinarians in South Africa are in the Civil Service, and here are found graduates not only of the Royal College, but from various schools in Germany, Switzerland, Austria, Italy and America.

The ideas of the conditions of life and of the distribution of the civil and animal population in South Africa, held by people in the old world, are generally very erroneous. Everything differs in some respect from what exists overseas. The climate, geographical and geological features and all factors depending thereon are quite strange to the newcomer. Diseases that are common in the Union may be

merely of academic or scientific interest in Europe and, of course, to a certain extent the converse holds true. While in Britain and on the Continent, diseases, with a few important exceptions, are generally regarded from the point of view of treatment, in South Africa prevention is everything. The country is too vast, and the staff of scientific works too small (but large comparatively to the total white population) that it would be, to put it bluntly, uneconomical to treat diseases. The health of the stock of the country, and the control of contagious and epizootic diseases is in the hands of the Government veterinarians, who constitute the field staff. By enforcing various regulations they check the spread of diseases which, if they ever got out of hand, would probably cause a disaster of the first magnitude to the farming community. The present generation has not yet forgotten the ravages of Rinderpest in 1897, when 980,000 cattle were carried off in the Transvaal and 1,300,000 in the Cape Province. Fortunately that disease has been wiped out in the Union, but it can be readily understood how anxious the authorities are to prevent anything similar in the future, and the best safeguard is an efficient field staff.

The field staff is composed of Government veterinary officers and there are, naturally, various grades between the very junior Government veterinary officer and the Principal Veterinary Officer who is an executive officer directly responsible to the Minister of Agriculture. Mr. Borthwick is the present principal veterinary officer, and succeeded Mr. Charles Gray. Besides the field division there is the Division of Veterinary Education and Research, of which Sir A. Theiler, K.C.M.G., D.Sc., Assoc. Hon. R.C.V.S., is the founder and present director. The headquarters of this division are at the laboratory, which is situated on the farm Onderstepoort, about seven miles by road to the north of Pretoria on the main railway line from Pretoria to Pietersburg. The laboratory is a Government institution (drawing from the Treasury over £80,000 per annum) and comes under the jurisdiction of the Minister of Agriculture, whilst the laboratory and the field staff come under separate directors. Although in the past all appointments to the Laboratory of Veterinary Research Officers were made from overseas graduates, both South African born and newcomers, the provisions that have been made to train students in the local Faculty of Veterinary Science, the headquarters of which are at Onderstepoort, will in the future greatly restrict opportunities for the appointments of other than local graduates. This does not apply to specialists or research workers from other countries, who will be only too welcome to come to South Africa and contribute to the study of local problems.

South Africa is a young and ambitious country, and she has determined to provide facilities for the education of her own youth.

In the early post-war days steps were undertaken, after long and careful discussion, to form a Veterinary Faculty. Just about the same time full facilities were offered at the Universities of Capetown and Johannesburg for the qualification of medical men, so that the veterinary authorities were only following a good lead set by the sister profession. It was decided right at the beginning to take advantage of the proximity of the Transvaal University College in Pretoria, which is the largest constituent college of the University of South Africa, and to have a Veterinary Faculty affiliated to the College ; so that not only would the students be registered matriculated students of the University of South Africa, but their qualifying degree, B.V.Sc., would be of University standing. Moreover, the various professors and lecturers (with the natural exception of the professors of biology, chemistry, and physics, in the first year) were selected from the laboratory staff and were at the same time both civil servants and members of the Senate of the Transvaal University College and of the maternal body, The University of South Africa. It would be out of place here to discuss the curriculum of the Veterinary Faculty, but it may be mentioned in passing that the course lasts five years, and that the students as they pass through their successive years come into intimate contact with the various Departments of the laboratory of which their teachers are head. The student has thus the considerable advantage of being introduced to research methods at an early and formative period of this training.

In 1924 the first batch of graduates, six in number, were " capped," and in the following year a further 10 received their degrees. All these newcomers were immediately absorbed by the Civil Service, the majority into the Field Division, but some few chosen ones in the Research Division. In a small white community, as is found in the Union, the output of qualified men must necessarily be small. There is no idea of flooding the country with veterinarians. On the contrary, the output will be, and can be, regulated or restricted to meet the demand.

Future of the Profession.

There is at present before the Union Parliament a short ordinance called the " Veterinary Bill," which is being introduced by a private member (Advocate van Hees), and which has the support and approval of both the Minister of Agriculture and the Government. The aim and purpose of the Bill is to establish the veterinary profession in a sound legal position now that the Government is maintaining an Institution, part of whose function is to educate students for the necessary qualifying degree of the University of South Africa. As has been said before, South Africa is not without her " unqualified " persons,

and one of the objects of the Bill is to prevent the entry of these undesired members in the future.

The Bill was drawn up and formulated by the Council of the South African Veterinary Medical Association and agreed to at the Annual Meeting of the Association, so that it may be taken that the Bill is an expressed wish of the veterinary rank and file in the country, for the Council of the Association is elected by the votes of all members of the profession in the country who have joined the Association. A copy of the Veterinary Bill may be obtained from the High Commissioner, Morley Hotel, Trafalgar Square, London.

In conclusion, it may be emphasised that as South Africa is now qualifying her own graduates, it is only reasonable to assume that they will get priority of selection in any posts or billets that may be advertised from time to time. The number of men qualifying per year is expected to average half-a-dozen or less, so that the number will about synchronise with the number of positions that will be available each year. Now and again some will elect to go into private practice, but as has already been shown, this field is very restricted in South Africa.

The Veterinary Curriculum.

It is not intended in this paper to deal with the veterinary curriculum in detail as it would be out of place, but a short survey may be given with advantage.

In the first year attention is given to the usual preliminary science subjects, all of which a student must have passed before he can be admitted into the second year. Anatomy (including embryology and histology) and physiology are the major subjects in the second year, but courses are given in biochemistry, botany, physical and organic chemistry. The third year is a heavy one and includes a further course in physiology, biochemistry and anatomy (comparative and topographical). The student is required to dissect all the domestic animals from a comparative and surgical point of view. Extensive courses are also given in the third year in pathological physiology, bacteriology, pharmacology, and general pathology with special reference to *post-mortem* technique, while lectures in zootechnics, economic entomology and ecology, are given more or less with special emphasis on the veterinary aspects of each subject. In the fourth year there is a course in special pathology. In this year lectures are begun in medicine, surgery and infectious diseases, while hygiene and helminthology are also dealt with. In the final year a second course of lectures are given in surgery, medicine and infectious diseases, while State veterinary medicine, municipal veterinary hygiene and obstetrics are also given. During the last two years the student must

attend the clinic, when he is given his own cases to treat and manage on properly organised hospital lines. During the year ending March 31st, 1926, 3,865 animals were examined in the clinic, and the number of cases treated were 1,376 surgically and 282 medically. Of these 1,668 patients there were 1,054 equines, 299 bovines, 189 ovines, 109 canines, 3 monkeys, 4 wild cats, 12 fowls and 1 kangaroo.

The most interesting in the surgical wards of the hospital were 125 cases of traumatic keratitis (caused by Steekgrass), 18 ovariotomies, 12 splenectomies, 8 cases of infectious tendo-vaginitis, 4 laparotomies, and 66 sterility cases in the ambulatory clinic. There were also cases of amputation of the udder, various forms of hernia, roaring, castration (110), various wounds (85), abscesses (38), poll evils, etc. etc. In order to show the wealth of *post-mortem* material available for the teaching of pathology and research, it may be added that nearly 1,000 animals passed through the *post-mortem* hall, namely, 455 sheep, 214 equines, 124 cattle, 71 dogs, 48 goats and several carcases of monkeys, jackals, buffaloes, wild buck, and kangaroos.

It will thus be seen that the students at Onderstepoort are particularly fortunate, not only in the large and varied clinic they have at their disposal, but also the unexceptional wealth of material for *post-mortem* examination and further research.

MEAT INSPECTION—ANOMALIES, AND IN RELATION TO THE ARMY AND NAVY.

By Major-General Sir JOHN MOORE, K.C.M.G., C.B., F.R.C.V.S.,
16, *Frognal Lane, Hampstead, N.W.*3.

An interest in the general question of meat inspection in this country only serves to disclose the curious anomalies which exist. One wonders how it is that such a system, if it can be called a system, has ever been evolved, and why such a medley should be continued in a country which boasts of progress. One can only surmise that its varying and conflicting aspects are the outcome of the interest of particular or sectional bodies and institutions to suit the requirements of particular times and localities, and that real authoritative guidance with fixed and centralised responsibility has been, and continues to be at fault. I am led to this conclusion for the following reasons. During the recent Congress of the Royal Sanitary Institute, held in London, I attended the Conference of Sanitary Inspectors, wishing to ascertain more perfectly the duties of a sanitary inspector. At that meeting a paper was read by the Chief Sanitary Inspector, Leicester, on "The Need for Public Abattoirs and to Abolition of Private Slaughter Houses to Facilitate Inspection." On hearing the paper

and discussion the impression conveyed to my mind was that the sanitary inspector, possessing a meat inspector's certificate granted by the Royal Sanitary Institute, was considered all-important and sufficient as an authority on the freedom of meat from disease conditions, the necessity for allusion respectively to those trained professions in diseases of animals and of man being apparently superfluous. At the same Congress two days afterwards, in a paper entitled "The Work of the Veterinary Officer from the Pampas of Argentina to Smithfield Markets," a complete veterinary survey of meat inspection was demonstrated by Lt.-Col. T. Dunlop Young, the Veterinary Inspector of the City of London. Two Sections of the same Congress were therefore handling one subject, which seems to be altogether wrong. Indeed, the whole story of meat inspection in Great Britain and Ireland is a similar one of overlapping, a sixes and sevens procedure, a mixture of agencies varying with locality or interest, uneconomic and minus the hall mark of efficiency as a whole. I agree with the young Australian who remarked at the Sanitary Inspectors' Conference in relation to the paper above-mentioned that this country was 100 years behind the times.

It is, however, with regard to Meat Inspection in the Services that I wish in this article to comment on. In a service of thirty-two years in the Army, so far as my memory serves me, I was never called on as a professional man to express any opinion as to the fitness of meat or of animal products as food for the troops, excepting meat on hoof during expeditionary periods on the frontiers of India, and the inspection of sheep at Calcutta for the penal settlement of the Andaman Islands. I think I should be right, also, in saying that this has been the experience of nearly every other officer, past and present, of the Army Veterinary Service. An exception may be extended to the Service in the Field which I directed in France, where in the disposal of horses wasted by war yielding a credit of £1,328,000 for purposes of food, veterinary officers acted in a departmental capacity as meat inspectors. Still the fact is patent that the Veterinary Service of the British Army is not utilised officially as professional experts to ensure a healthy meat and milk supply to the Army or even to aid in the same. It has probably never occurred to those in authority that the Veterinary Service of the Army is the correct and most appropriate agency for this duty, that its officers are already trained in this respect, and could be made available, instead of incurring the expense of sending officers of the Royal Army Service Corps to be trained in London by Veterinary and Medical experts under a Sanitary Institute Certificate. The Veterinary Service itself cannot altogether be held free from blame for this misapplication of duty, and in which

as a late administrative officer I share ; still, it is not too late to make a change, and I suggest that the matter should be taken up, and responsibility laid in the proper quarter. Anomaly is even Gilbertian in the Navy, the Paymaster trained at Smithfield Market being the Meat Inspector ! The Air Force, so far as I can gather, has not yet realised the necessity for any systematic meat inspection.

Matters are ordered better in the Army of the United States of America, where the duty of meat and milk inspection is definitely allocated to the Veterinary Corps, a corps which was organised during the Great War very much with the sympathy of and in association with our own complete simple and highly efficient organisation. To understand the United States Army inspection of meat and meat products one must have a knowledge of the general systems or procedures of meat inspection services in that country. These are divided into Federal Inspection, State Inspection, Municipal Inspections and Army Inspections, and, briefly, are as follows : Federal inspection is immediately controlled by the very efficient and well-known Bureau of Animal Industry, comprises *ante-mortem, post-mortem,* and products inspections and sanitation, and in its 29 Regulations under Federal Law specially aims at the inspection of all meats and meat products of the great packing houses of the United States and all meats subject to interstate and foreign commerce. It includes inspection of cattle at unofficial places, and the handling of horse meat. Sixty per cent. of the meat of the United States comes under Federal Law. Inspection before, during, and after slaughter is entirely carried out by a service of careful and well-trained veterinarians well known now throughout the world for efficiency, and the present law prescribes the methods used in maintaining the sanitary phase of all slaughtering plants.

State and municipal inspections leave much to be desired. The State of Pennsylvania is so far the only one which has adopted any system of meat inspection, the State being divided into eleven districts, each in charge of a deputy state veterinarian and co-operation with federal and municipal authorities is complete and without duplication. A state license system embracing the butchering trade has been proposed, which would set a check on the activities of irresponsible slaughtering, the unscrupulous dealer, the junk dealer, and the small butcher who kills on the farm where he buys. Certain cities maintain city ordinances, establishing inspections as part of the Public Health Department which though purely local ordinances are in effect extensions of the Federal Meat Inspection Law. Unfortunately, however, there are not as many cities and towns in the United States which maintain such inspections as would appear desirable and generally speaking state and municipal inspections are not yet well

or extensively organised. Army inspection, on the other hand, is most complete, and the American Army can congratulate itself on being the best protected institution in the world. To begin with, the majority of products are purchased on specification (Quartermaster's Department) from establishments maintaining federal inspection, where their inspection is supervised by an Army Veterinary Inspector, whose duty it is to watch each step in preparation, and yet without duplicating the work of Bureau Inspectors. In places where Bureau inspection does not obtain the Army Veterinary Officer is called on to make a complete examination, including both *ante-* and *post-mortem* examination. In addition to this, final acceptance rests with the Army Veterinary Inspector on delivery to the Army. The Veterinary Officer is also required to pass the suitability of other meats than the usual beef, mutton, pork, veal, etc., such as " rabbits, poultry, game and other meats, fish, oysters and other sea food, eggs and milk which are either fresh, frozen, cured, canned, or otherwise processed or prepared." " The Veterinary Service, therefore, in its duty of protecting solely the interests of the Army, continues the inspection procedures of authorised Federal State or Municipal Agencies, accepting those deemed competent, supplementing them when they are incomplete or entirely absent, and repeating them only when they are manifestly inadequate or incomplete " (official). It is an example which might be profitably taken to account in our Army organisation. I venture to say that it would be carried out with an efficiency characteristic of our Army Veterinary Service, would add very little to the present duties of veterinary officers, and would certainly carry the confidence of the Army and fighting services generally.

BRAXY IN SHEEP: FIELD TESTS OF VACCINE IN 1925-26.*

By T. DALLING, M.R.C.V.S., J. H. MASON, M.R.C.V.S.,
Wellcome Physiological Research Laboratories, Beckenham,
AND H. R. ALLEN, M.R.C.V.S.
(now of the Institute of Animal Pathology, Cambridge).

THE results of the use of Braxy Vaccine in the field in 1924-25 have already been recorded (Dalling, Allen & Mason, *Veterinary Record*, 1925, No. 28, Vol. 5, p. 565, and ibid. *Veterinary Record*, 1926, No. 4, Vol. 6, pp. 65-66). Two further field tests were carried out during the 1925-26 season. The vaccine used was prepared as for the former experiments, and consisted of a mixture of underneutralised

* The tests were carried out from the Wellcome Physiological Laboratories.

vibrion septique toxin-antitoxin and *B. chauvæi* filtrate. Laboratory tests were carried out in guinea-pigs. Tables I and II are records of such tests. Only vaccine conferring complete protection to guinea-pigs was used on sheep.

The field experiment detailed in Table III was arranged by Mr. G. Howie, M.R.C.V.S., late Veterinary Adviser, Armstrong College, Newcastle, who did the actual inoculating and kept in touch with the work throughout the whole experiment. Of 2,215 hoggs injected at the end of September, 1925, and again a fortnight later, 37 or 1·6 per cent. died, while of 504 hoggs uninoculated and kept under exactly similar conditions as the inoculated, 36 or 7·1 per cent. died.

The second field experiment (see Table IV) was carried out under similar conditions. We ourselves inoculated the hoggs. This experiment is of special interest because of the groups of hoggs which received the popular " pig-dung " treatment and which were kept on the same farms and under exactly the same conditions as the inoculated and control sheep. The " pig-dung " method of treatment is largely used in the Braxy districts of Scotland and England. A full description was given by Gaiger (*Journ. Comp. Path. and Therap.*, 1922, Vol. XXXV, Pt. 4, pp. 251-2). The net results of this second experiment

TABLE I.

Guinea-pigs inoculated twice within 14 days with Braxy Vaccine. Doses 2 c.c. each. Test 4 weeks after second injection.

Guinea-pig.	Test Dose of V.S. Toxin.	Result.
1	0·5 c.c.	L
2		
3		
4	0·25 c.c.	L
5		
6	0·1 c.c.	L
7		
Controls (uninoculated).		
1	0·5 c.c.	+ 7 m.
2	0·25 c.c.	+ 8 m.
3	0·1 c.c.	+ 0/n.
4	0·05 c.c.	L

Test toxin injected intravenously.

+ 7 m., etc. = Died in 7 minutes, etc. L = Lived.

TABLE II.

Guinea-pigs inoculated twice within 14 days with Braxy Vaccine. Doses 2 c.c. Test 4 weeks after second injection.

Guinea-pig.	Test Dose *B. chauvœi* Culture.	Result.
1	1·0 c.c.	L
2		
3		
4	0·5 c.c.	L
5		
6		
7		
Controls (uninoculated).		
1	1·0 c.c.	+ 48 hrs.
2	0·5 c.c.	+ 3 days
3	0·25 c.c.	+ 3 days
4	0·1 c.c.	L

Test culture injected intramuscularly. L = Lived. + = Died.

TABLE III.

Farm.	Hoggs Inoc.	Died.	Per Cent.	Hoggs Uninoc.	Died.	Per Cent.
1	194	4	2·1	30	4	13·3
2	100	–	0·0	19	2	10·5
3	40	1	2·5	18	–	0·0
4	65	–	0·0	12	1	8·3
5	74	–	0·0	13	–	0·0
6	84	2	2·4	20	6	30·0
7	371	–	0·0	103	4	3·9
8	195	–	0·0	60	3	5·0
9	117	7	5·9	23	1	4·4
10	64	–	0·0	22	2	9·0
11	120	2	1·7	22	2	9·0
12	150	2	1·3	30	2	6·6
13	81	–	0·0	28	–	0·0
14	150	3	2·0	22	1	4·6
15	200	11	5·5	40	2	5·0
16	150	5	3·3	30	3	10·0
17	60	–	0·0	12	3	25·0
	2,215	37	1·6	504	36	7·1

TABLE IV.

Farm	Hoggs Inoc.	Died	%	"Pig-dung" treated	Died	%	Con-trols	Died	%
A	24	—	0·0	—	—	—	15	—	0·0
B	91	—	0·0	60	2	3·3	—	—	
C	132	2	1·5	—	—	—	53	7	13·2
D	40	—	0·0	—	—	—	44	—	0·0
E	15	—	0·0	—	—	—	6	2	33·3
F	34	—	0·0	—	—	—	12	—	0·0
G	25	1	4·0	—	—	—	25	—	0·0
H	20	—	0·0	—	—	—	30	5	16·6
I	40	—	0·0	183	17	9·3	12	4	33·3
J	43	3	6·9	—	—	—	57	4	7·0
K	186	—	0·0	—	—	—	240	6	2·5
L	150	—	0·0	52	6	11·5	38	4	10·5
M	99	3	3·0	89	6	6·7	30	2	6·6
N	104	6	5·7	—	—	—	192	26	13·5
O	63	2	3·2	224	7	3·1	4	—	0·0
P	152	3	2·0	22	1	4·5	55	—	0·0
Q	122	1	0·8	22	1	4·5	—	—	—
R	59	16	27·1	188	46	24·5	—	—	—
S	196	9	4·6	60	3	5·0	140	3	2·1
T	200	5	2·5	150	7	4·6	—	—	—
	1,795	51	2·8	1,050	96	9·1	953	63	6·6

are that of 1,795 inoculated hoggs, 51 or 2·8 per cent. died; of 1,050 hoggs treated with "pig-dung," 96 or 9·1 per cent. died; while the death-rate among 953 uninoculated and untreated hoggs was 63 or 6·6 per cent. An analysis of the table will show that if results be taken from farms on which inoculated and uninoculated sheep were kept (Farms A, C, D, E, F, G, H, J, K, and N) 12 out of 623 inoculated hoggs died (1·9 per cent.) and 50 out of 674 controls (7·4 per cent). Again, if farms on which all hoggs were "treated" in some way be considered (Farms B, Q, R and T), of 472 vaccinated hoggs, 22 or 4·6 per cent. died, while of 420 to which "pig-dung" was fed, 56 or 13·3 per cent. died. On six farms (I, L, M, O, P and S) all three groups of hoggs were kept and the results are: (*a*) of 700 vaccinated sheep, 17 or 2·4 per cent. died; (*b*) the mortality among 630 "pig-dung" treated sheep was 40 or 6·3 per cent.; (*c*) of 279 controls, 13 or 4·66 per cent. died.

The deaths recorded in the groups of " treated " and " untreated " sheep are believed to have been due to Braxy. Few *post-mortem* examinations have been carried out, but after investigation we are of opinion that in most instances Braxy was the cause of death, and that the figures recorded are as correct as it is possible to obtain from such a field experiment.

CONCLUSIONS.

(1) In two Braxy districts in Northumberland, the use of vaccine consisting of a mixture of underneutralised vibrion septique toxin-antitoxin and *B. Chauvœi* filtrate reduced the mortality in hoggs from 6·8 per cent. among 1,457 unvaccinated sheep to 2·2 per cent. among 4,010 vaccinated.

(2) The " pig-dung " treatment under controlled conditions in one district apparently had no beneficial effect in preventing Braxy.

Clinical Articles

AN INTERESTING EYE CONDITION IN A HORSE.

BY MAJOR C. F. THOMPSON,
Royal Army Veterinary Corps, Meerut, India.

RECENTLY I was making an inspection of the horses of a cavalry brigade signal troop of which certain horses were proposed for casting, and of these one was put up as " unsafe to ride." This horse, it was stated, stumbled over bad or uneven ground and took his jumps badly. The question that occurred to me was : Did this horse stumble by reason of being a naturally clumsy horse, through bad conformation or other such sufficient reason, or was the cause possibly that the unfortunate had faulty vision ? I requested that the horse be sent up to the veterinary hospital, so that I could examine it with the ophthalmoscope. To the unaided vision, or shall I say with the aid of a bowler hat, the eyes appeared to be quite normal. The ophthalmoscope, however, revealed quite an interesting state of affairs. The reflex, instead of being the normal green, represented all the colours of an opal. It was apparent that some years ago this horse must have had an inflammation of the choroid. The majority of the blood vessels of the choroid had cicatrised, involving the retinal vessels, and thus entailing lack of vision in the whole area thus affected. Certain portions of the choroid still remained normal, and, of course, equal portions of the retina, but this was insufficient to permit vision adequate to cope with rapid, or even moderately rapid progress, i.e. trotting or cantering. It would be interesting if it could be ascertained, how many horses reported " unsafe to ride " are affected in this manner. The cornea, lens, aqueous and vitreous humours were normal.

A CHAPTER OF ACCIDENTS.

By LEONARD HOBSON, M.R.C.V.S.,
Honiton.

IT was on May 6th, 1926, that the following message was received :

" Please to come at once to see a mare that can't foal. The front legs are sticking out up to the knees. I've had my hand in and although I can't feel a head, I can feel a big ball. Three of us have had ropes on and pulled, but nothing will give."

Getting a start at 4.30 p.m. I found an anterior presentation with the forelegs exposed as far as the knee joints, and I could feel the anterior end of the sternum, but no head. The so-called " big ball " I found to be the mare's bladder, completely everted and bleeding.

Chloroform (℥j ss) was administered in the standing position, whereupon the mare sank to the ground.

The eversion was reduced with antiseptic precautions. The forelegs, having been corded and pushed back, an attempt was made to find the head.

After half an hour's manipulation, coupled with a certain amount of luck (presumably owing to my long arms as I can stretch 6 ft. 3½ in.) I managed to lever up the head sufficiently to get a noose on the lower jaw. I then pulled it up into the passage with the help of four men.

With the addition of two more men to the team, steady traction for ¼ hour brought the foal into the daylight, but unluckily it appeared to " jam " at the stifles.

A yard of bowel now literally " shot out " per rectum, and this had to be replaced with antiseptic precautions. Next, steady traction and a slight twist brought the foal into this world with a rush ; the team all in a heap on the floor, followed unfortunately by the prolapse of the vagina and part of the uterus. The placenta was removed and the prolapsed portion of the vagina and uterus were replaced. It was therefore not surprising that the next item on the programme was the collapse of the mare.

Cold water was immediately applied to the head and strychnine (gr. i) was administered hypodermically. Artificial respirationw as necessary before she recovered.

Antiseptic pessaries were introduced *per rectum* and *per vaginam*, and at 7.30 p.m. she was left apparently comfortable.

Whisky and Milk, together with four eggs, were ordered to be given in half an hour.

Another visit was made at 11 p.m., when strychnine (grs. ss) was administered hypodermically, and a similar drench of whisky and milk ordered for 4 a.m.

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With good food, tonics, etc., and most excellent nursing by the farmer's good lady, the mare improved so well that I discharged her off my visiting list on May 16th.

On May 18th an urgent call was received: "Come at once. Mare in terrible pain."

When I arrived, I was told that the mare had been given a colic drench and was much easier.

She had passed a cylindrical-shaped body about 8 in. long, which proved to be a "cast" of the bowel. Examination of the mare's rectum revealed, about 2 ft. within the interior, a ridge extending completely around the inside of the bowel.

The last time I saw the mare was on June 20th, when I happened to be passing the field where she was running, and I must admit that she looked well, and was feeding heartily. Her highest temperature was never at any time more than 102·2°. The fœtus (a colt foal) was normal in every way, except the head, which was curved from the occipital crest to the premaxilla. It was hog-mouthed and the upper and lower jaws met in the form of an "X."

SEPTIC MAMMITIS IN CATTLE.

By WM. ASCOTT, O.B.E., M.R.C.V.S.,
Bideford.

The recent heat wave has been responsible for a large number of the above cases in cows which were not in milk. Some were cows which had been dry for some considerable while and were being fattened; some were dry but getting near the time of calving, and the udder consequently "springing." For this reason these cases were not noticed to be ill until in the majority it was too late for treatment to be of any use, i.e., they were suffering from acute septicæmia before they were treated and died within a few hours of being discovered. The following cases are typical of the rest that have occurred recently in this practice:

1. A fat cow ready for the butcher on an estate where the best of supervision is given. Was seen in the early morning by the bailiff grazing with others, and nothing was noticed amiss. At 11 a.m. was noticed not to be grazing, and to be walking a little stiff in front. A fever drench was given and the case not thought to be of sufficient importance to send for professional assistance. At 3 p.m. she was down and unable to rise. I found her delirious at 4 p.m., and at 10 p.m. she was dead. Only one quarter of the udder was affected, but the contents were putrid, and shortly before death the skin covering that quarter became emphysematous.

2. At 2 o'clock the same day as No. 1, an old cow due to calve. Seen in the morning early, and thought to be all right. About mid-day the owner went out to bring her in so as to be handy when she calved, and found she was rambling. After crossing one field she fell and was unable to rise, and the owner thought she was suffering from milk fever. At first sight I thought his diagnosis was correct, but a closer examination speedily undeceived us. Again only one quarter was affected, but she died at 4 p.m., exactly four hours after being first noticed to be ill.

3. A heifer, which had never had a calf and was not in calf, but was being fattened. History similar to the other two. She died within 24 hours.

I have had 11 of these cases within the past seven days, all in different directions, and all died. Cases have occurred during this same period in cows in full milk, and treatment has been given fairly early, i.e., after the owner had, as is commonly done, treated them himself for 24 hours or so before seeking advice, but so far as I am concerned, the result has been very unsatisfactory. Injections into the mammary gland of antiseptic solutions (I have tried a variety) have seemed to accentuate the disease and free incisions into the gland or teat to evacuate the evil-smelling fluids have been of little use unless adopted early, at which stage the owner is very reluctant to give his consent.

I shall be interested to hear how others have got on with this outbreak, as it must be fairly universal, and what treatment they have adopted.

Since writing the above I have been called to two cases, the property of one owner, a butcher, both being fattened, and one is down and unable to rise already, although only noticed ill six hours previously.

A DIFFICULT PARTURITION.

By D. E. WILKINSON,
Class C, Royal Veterinary College, London, N.W.

One night during the war, I was called out to deliver a cow, which was stated to be unable to calve.

The subject, a fat Shorthorn, in calf for the second time, was "due" and straining vigorously, but no calf was presented in the vagina. Examination revealed an impervious and schirrhous *os uteri*. On enquiry, I found that she had had a difficult parturition with her first calf and was somewhat badly lacerated during delivery.

I was able, after a time, to get my index finger through the *os* and I then attempted to dilate it. Finding this impossible, I passed a probe-pointed curved bistoury through into the uterus and carefully

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withdrew it, making four incisions half-way through the hard and constricted *os*, and taking the greatest care not to go right through it. I was then able to insert my hand and to feel a live calf, and to my delight easily dilate the *os*.

The heifer continued to strain vigorously, and in a few minutes the calf's head was in the vagina and I began to think my task was almost accomplished. I was soon undeceived when I attempted to get up a foreleg. I roped both the calf's fore-feet without difficulty, but he was so large, and the vaginal passage so small that it was a matter of impossibility to get a foreleg and the head up at the same time ; much less both forelegs and the head. I tried pushing back the head and bringing up the foreleg, but then the shoulder blocked the whole passage.

After some two hours' hard work I informed the owner it was impossible to deliver the calf alive and obtained his reluctant consent to kill it and perform an embryotomy. I cut the calf's throat, cut off its head as far back as possible, and then pulled up both forelegs into the passage, only to find the shoulders jammed in the maternal pelvis. Skinning the foreleg, I pulled it off and then thought delivery was certain, but found the trunk alone too bulky for delivery. I then cut out the first two ribs and eviscerated the fœtus through the aperture thus formed, passed in my embryotomy chisel and cutting the ribs in two, thus collapsing the chest. Then, by traction on the remaining forelimb, the trunk of the fœtus was extracted, only to find that the angles of the haunch and the hind limbs refused to pass through the maternal pelvis.

The chisel was again inserted and the pelvis broken down at the pubic symphysis, and the shaft of the right ilium cut in two, thus breaking down the pelvic girdle and allowing the right hind leg to fall obliquely behind the left one ; after which the fœtus was ultimately extracted after a protracted and exhausting operation.

The heifer appeared none the worse for her experience when I visited her next day, and milked for several months, after which she was fattened and sold for beef.

The chisel I use is that described on p. 349 of Williams' " Veterinary Obstetrics." It is made of steel $\frac{5}{8}$ in. diameter and 30 in. length, with a strong ring handle, the chisel end 2 in. wide and tapering gradually backwards towards the handle for a distance of $4\frac{1}{2}$ in. The chisel blade is $\frac{1}{4}$ in. thick so that it may go through any fœtal bone without breaking or bending ; and its cutting edge is slightly concave to avoid risk of side-slip.

It is thus stout enough to bear blows with a mallet to drive it half way through a bone which is then fractured by twisting the chisel by means of a stout stick passed through the handle.

In my experience it is far preferable to any chain-saw, as if carefully used it will cut through any tissues without injury to the mother, and is far more easy to insert, use and remove than a chain-saw.

DISLOCATION OF THE NECK OF THE CAMEL.

By T. A. B. COCKSEDGE, M.R.C.V.S.,
Veterinary Department, Burao, British Somaliland.

I have had four cases of dislocations of the neck in the camel during the last six months, and am entirely unable to account for it,

Photograph showing a Typical Appearance of the Dislocation of the Neck.

as on *post-mortem* in no case have I found anything beyond displacement and local injury to ligaments and muscles; no sign of any predisposing cause.

THE DOG AND THE TIN JUG—A CURIOUS ACCIDENT.

By HAROLD STAINTON, F.R.C.V.S.,
Kensington, London, W.8.

In practice one receives many urgent and peremptory calls to "come at once," and during a busy day it is not always easy to discriminate between real urgency and just ordinary "wind up."

However, when one is called upon to attend "a dog stuck in a tin jug," the obvious sincerity of the S.O.S. is apparent.

On arrival at the scene of the disaster I was met on the doorstep by a distracted owner and a crowd of chattering domestics. Below could be heard a muffled noise accompanied by dull thuds. On the face of it, a case for the police rather than a veterinary surgeon!

However, on descending to the lower regions one was confronted with an amazing spectacle, namely, a fox terrier dog dashing around with his head inside a large tin jug. The efforts of the agitated wearer of the "tin hat" appeared to indicate a desire to get *in* rather than *out* of the jug. It was a scene of great confusion and the furniture had suffered much.

The dog was captured, but all efforts to remove the headwear were futile. A visit to the nearest ironmonger and the loan of metal shears was the next step taken. The jug was tough and tightly jammed round the dog's neck. It required 20 minutes' careful manipulation to effect release.

The patient, annoyed rather than relieved, made strenuous efforts to enter the jug again. Upon looking for the cause of his eagerness, at the bottom of the latter there was found a dead mouse—*et hinc illæ lachrymæ.*

THE EFFECT OF A PIECE OF RUBBER ON A DOG.

By CHARLES MASSON, M.R.C.V.S.,
Torquay.

The patient was a two-year-old Sealyham terrier, which had never had distemper.

I was called to see the animal on December 21st, 1925, because it was very sick and entirely off its food; a most unusual thing for him.

The temperature was 103, respiration and pulse normal. He was very dull; had a solid purulent discharge from the eyes and a nasty yellow coloured diarrhœa.

After the administration of a mild aperient pill, I prescribed five grains of salol three times a day.

On the 25th the patient began to eat and attempted to play with another dog in the same house. He had, however, become very tucked up, emaciated in appearance, and weak, and on the 27th he

went right off his feed, and on the 29th he was staggering about when trying to walk and looked a mere bag of bones; and on this day he passed the end of a black toy rubber bone (such as is sold in shops for puppies) the size of a walnut. After this his recovery was rapid and uneventful.

I had a somewhat similar case a few years ago, in which I located the foreign body by palpation. This, unfortunately, caused a stoppage of the bowels and the death of the animal. Upon *post-mortem* a solid rubber ball proved to be the cause of the mischief.

CYSTICERCUS PISIFORMIS.

By G. MAYALL, M.R.C.V.S.,
Bolton.

THE ailments of small animals become more important to us as the years pass on. On July 21st a dead Chinchilla rabbit was sent to me by a Haverfordwest lady for *post-mortem* examination. She had lost 8 out of 11 rabbits. They were all a few months old. They had gradually gone hunched and weak-looking, showed lack of activity, appetite and condition lost. She had been feeding on fresh greenstuff and bunny meal. On opening the abdominal cavity two whitish mosaic-like spots could be seen on the surface of the liver. These spots were about the length and width of a grain of rice. The liver tissue itself was soft and friable. Lying on the mesentery and omentum and free in the abdominal cavity were several bladder-like bodies from the size of a dried pea to a millet seed. These had small protrusions at each end, one of which was more pointed than the other. (My books on *C.P.* do not mention two protrusions, but only one, viz., the scolex or head.) The bladders themselves were almost transparent. The tissue of the left lung was inflamed over a considerable portion of its apex and border probably due to the embryos.

It is interesting to remember how the rabbits get infected. The *cysticercus pisiformis* is the cystic or larval form of the *tænia serrata* of the dog. The eggs of the tapeworm are probably voided in the fœces of a dog affected with tapeworm and these get on to the greenstuff that is given to the rabbit. It is unlikely that they get into the drinking water direct in the case of the tame rabbit. The rabbit eats the soiled greenstuff and the eggs reach its stomach, and the embryos are liberated from the eggs by the acid stomach contents. The embryos bore through the intestinal wall and enter the portal vein and are carried to its branches. They bore their way out, penetrate the liver tissue and perforate its capsule and finally reach the peritoneal cavity and develop further on the omentum, mesentery or peritoneum. A few of them may pass through the capillaries into the

hepatic veins and be carried to the lungs and bore their way out there. Unless one knows all about the history of these cysticerci it is a puzzle to surmise how they arrive free in such numbers in the peritoneal cavity, and it is a surprising sight to see them on *post-mortem*. To check this malady the books say dogs should be systematically and regularly treated for tapeworm, but nothing appears about burning or destroying their defecations. Equally, rabbits affected with cysticerci should not be given to the dogs. The rabbit and hare being the hosts of this parasite is probably the reason why sporting dogs are said to be most frequently affected with *tænia serrata*.

Abstracts

ABSTRACT FROM A PAPER ON "DIFFICULT PARTURITION."

By E. T. BAKER,
Moscow, Idaho.

DR. BAKER says that he would rather tackle three cases of dystocia than one ordinary equine impaction.

EQUIPMENT.

First of all, a practitioner needs a car with plenty of grip space. Personally, we prefer the roadster type, for then our outfit is kept dustproof and out of the way. While there are many good cars on the market, our fourth Buick coupe is giving us excellent satisfaction.

Experience has taught us that few obstetric instruments are needed, except an oiled suit, 30-inch chains, wire stretcher, and a good right arm. We used our hooks and repeller just once last year, and once in a while an embryotomy knife will come in handy. About 95 per cent. of the obstetric instruments are made to sell, and Dr. Williams, in his valuable work on "Veterinary Obstetrics," gives some sound advice along this line. An instrument salesman who could persuade an experienced practitioner to purchase one of these jointed handled toy sets could sell bathing suits to an Eskimo!

My obstetrical grip is an 18-inch bag with side pockets for the common drugs used in these cases. We have five four-ounce bottles (with screw caps) of aseptogen, campho-phenique or lubricating antiseptic, chloral, potassium permanganate and aromatic spirits of ammonia. In the other side pocket we carry a large bottle of powdered boric acid and a few uterine capsules. Any of the capsules put out by the various commercial houses are good, but they should have small slits in them, so that the contents will dissolve before the patient dies of old age. We have a No. 3 Tower Fish Brand oiled suit that we have used for ten years. One can hose this off after using, sprinkle a little aromatic antiseptic over it, hang it up to dry, and it will last

a long time. We also have an old woollen shirt without sleeves, a spool of wire and a large needle for sutures in the vulva in case of an obstinate eversion, a small bottle of pituitary solution, embryotomy knife, vulsellum forceps, small pig forceps and a two-ounce bottle of equal parts of tincture of iodine and ether to pour on our hands in case we get a small cut from the fœtus.

The obstetric roll contains six home-made instruments consisting of blunt hook, sharp hook, repeller, chisel, each 36 inches long over all, with big, roomy handles four inches deep and five inches wide, so that several hands can grasp them. Then we have a small blunt hook and sharp hook, to which is attached some sash cord. Just what good these latter are has never yet been determined by the writer.

Our third grip is a small but expensive suit case costing 98 cents. It is 13 inches long and 10 wide. It contains four 30-inch obstetric chains, three halter chains with two double snaps each, a wire stretcher, and a small roll of sash cord.

As an extra precaution we always carry an additional wire stretcher, two lariats and small rope or two to fit in the stretcher. A farmer never has a stretcher that works, a lantern that is not smoky or a butcher knife that will cut, and usually all the ropes are over at the other place.

Then, of course, we have our injection pump and hose, our surgical grip and emergency bag in the car. We also carry a good flashlight and a washpan. We have been threatening for the past 10 years to carry along a bottle of liquid soap, but so far have neglected to do so.

(For Dr. Baker's remaining very practical and instructive remarks we refer our readers to *Veterinary Medicine*, July, 1926.)

Abstracts of Current Literature

Dehner, Dr. O.—Aulin in the Treatment of Acariasis.—*Berliner Tierarzt; Woch*, May 7th, 1926.

EXPERIENCES with this drug at the Clinic of the University of Giessen. Aulin is a 10 per cent. solution of bisethylxanthogen in oil. At first arachis oil was used, but later to cheapen the preparation vaseline oil was substituted. Originally tetralin was used, but since it has been discarded. The solution is a light yellow colour and almost odourless. In cold weather it gets cloudy, but the cloudiness disappears on warming.

Clean the dogs before using aulin. Long-haired dogs should be clipped. Strong rubbing of the skin is to be avoided. The preparation may be applied with a moderately stiff brush. Every third day, and in improving cases every fourth day, the treatment is repeated.

Pustules disappear rapidly and after three or four applications the skin scales over the bad places and new hair makes its appearance. At this time there is marked diminution and great destruction of the acari. After 14 days the patients are thoroughly cleaned and given a $\frac{1}{4}$ to 1 per cent. liver of sulphur bath.

Treatment can be concluded and the patient declared cured if the bare parts are covered with hair and mites cannot be found after a lapse of 14 days. Mites taken off the dogs and kept at a temperature of 36–37° C. were killed by aulin in $\frac{1}{2}$ to 6 minutes. Only in one case 13 minutes elapsed before death.

Fifty-six cases were treated of four different characters: (1) local squamous form in 14 dogs; (2) extensive squamous attack in 23 dogs; (3) slight pustulous form in 10 dogs; (4) extensive pustulous form in 9 dogs. Forty-seven dogs were completely cured. There has been no recurrence of the disease. Three animals improved considerably and it is probable that these recovered. In two dogs treatment was hopeless. Two further patients died of other diseases during treatment and one was killed at the owner's request. This one was apparently cured, but no hair grew on the bare places. One of the dogs that died was apparently cured of mange. Excluding four of these cases 47 dogs were cured out of 52, with the aulin treatment.

Hornung and McKee.—The Injection of Physiologic Saline Solution in Canine Patients.—*Veterinary Medicine*, July, 1926.

Writing under the heading of "Hypodermoclysis in Canine Practice," the authors, after speaking very favourably of the value of the hypodermic effect of physiologic salt solution after hæmorrhage, in acidosis, certain forms of marasmus, and in active diarrhœa cases, estimate the approximate doses as follows:—

Dogs weighing from 1 to 5 lbs., 2 to 4 ounces; from 5 to 10 lbs., 4 to 6 ounces; from 10 to 15 lbs., 6 to 8 ounces; from 15 to 20 lbs., 8 to 12 ounces; from 20 to 30 lbs., 12 to 16 ounces; from 30 to 50 lbs., 16 to 24 ounces; and for dogs over 50 pounds, about 4 ounces to every additional 10 lbs. of body weight.

Roger and Ricaud.—Sterility in the Cow and its Treatment. Role of Ovarian Lesions.—*Rev. Gén. de Méd. Vétérinaire*, June 15th, 1926.

A. *Yellow Bodies.*—The yellow body is a neoformation tissue which develops on the ovary at the site of ruptured follicles. For a long time considered to be a simple cicatricial tissue, it is now ranged among the endocrine glands.

The physiology and physiopathology of the yellow body are still very obscure. Nevertheless, certain knowledge seems to be definite regarding them.

We know, for example, that the yellow body of gestation is the agent which brings about the sexual calm that accompanies it, which is indispensable to the nidation of the ovum and to the development of the embryo. If such a yellow body is destroyed, abortion follows and œstrum reappears. The periodic yellow body controls also the interœstral sexual calm, and suspends the rupture of hard follicles until the normal period of heat. If one destroys a periodic yellow body, heats reappear a few days after, in advance of the regular period and accompanied generally by rupture of a hard follicle which undergoes dehiscence, in advance of the normal time.

Yellow bodies are subject to various pathologic influences and their functions may be upset. Their duration may be abnormally prolonged. Yellow bodies which regularly ought to disappear at a fixed period (after parturition for the yellow body of gestation, at the following heats for the periodic yellow body if conception has not taken place) may persist and bring about frigidity either from simple sterility, in spite of œstrum apparently normal, whilst inhibiting or disturbing ovulation, or simply by destroying the accompaniment of œstrum and the rupture of the follicle. Their internal secretion or the pressure which they exercise on the remaining ovarian tissue may vary and bring about various disorders such as nymphomania, uterine inertia causing accumulation of mucus or pus in the womb and bordering upon myxometra or pyometra, or vaso motor disturbances perpetuating a catarrhal state of the uterus.

Many cases of simple sterility, endometritis, myxo or pyometra are cured by a single enucleation of the yellow bodies that accompany them. That is to say, these pathological cases are recognised to be solely or primarily caused by the presence of such yellow bodies. We think on the contrary that these yellow bodies act more generally as a secondary cause. They are for the most part the result of a general infection either *in utero*, from an intoxication of the ovary or from a simple functional disorder of this body ; but once having acquired their pathological characters they become the keystone of sterility. What is really the action of their enucleation ? It is impossible to answer this question exactly in the present state of our knowledge. Keeping in the practical domain we can simply register the fact that it abolishes sterility in the majority of cases (70 to 75 per cent.), and we naturally deduce that the yellow body was, in these cases, a manifest and preponderating cause of sterility.

XUM

B. *Cysts.*—These are caused by distended follicles. They generally bring about nymphomania, but on the other hand may occasion frigidity. Sterility always accompanies them. Far from being an exception, they are, however, much more rare than yellow bodies in our clientele. We meet with about 10 cysts to 90 yellow bodies in the total of our examinations. This difference between the observations of Hess and our own is perhaps a matter of *milieu*. Is it due in the one case to high infection with granular vaginitis and almost total absence of the bacillus of Bang, and in the other to freedom from granular vaginitis, but prevalence to a great extent of the bacillus of Bang?

It would be interesting to open a wide-spread enquiry on this subject.

C. *Ovarian sclerosis, Tumours, Abscess, Tuberculosis.*—These lesions are not frequently met with, and are of quite low etiological value if one considers the question as a whole. One cause of temporary sterility, encountered from time to time, above all at the end of the period of housing, is a frigidity following parturition, without ovarian lesions, but simply due to functional ovarian disorder.

Ovarian Semiology.

A. *Normal Ovary.*—This is an almond-shaped body about 2·5 c.c. long, 1·5 c.c. wide, and hardly 1 c.c. thick. One of its poles is in contact with the pavilion of the corresponding horn, and this fact makes the ovary appear pediculated. Its consistence is firm, but elastic. Its surface, smooth, may present slight elevations of the size of a large pin head, formed by mature Graafian follicles. One may find quite as often protruding yellow bodies of various sizes. The ovary usually carries only one yellow body, but several may exist on the same ovary. The volume of these yellow bodies varies in size from a grain of maize to that of a cherry. Their consistence is perhaps less firm and less elastic than that of the remainder of the ovary; it is never fluctuating. Old atrophied yellow bodies may be only pea-sized and very markedly sclerosed; they are then harder than the ovarian tissue and give to the finger the sensation of a flinty inclusion in the ovarian mass.

B. *Pathological Ovary.*—Its dimensions may be inferior or superior to those of the normal ovary. The first case the much rarer, corresponds to an ovarian atrophy which may for example, be due to senility. One observes, then, small ovaries, harder than normal and fibrous. The second case corresponds to pathological lesions such as hypertrophied yellow bodies, cysts, tumours, abscess, tuberculosis, etc. One may observe readily ovaries whose volume shows all the

intermediate stages between normal and that of a hen egg. It is not absolutely rare to find ovaries of the size of a goose egg. Exceptionally one may find them attaining the size of a child's head.

The presence of a hypertrophic yellow body does not increase the size of the ovary above that of a pigeon egg, exceptionally to that of a small hen egg. This yellow body is ascertainable as a mass, generally spherical, whose surface of revolution is secant to that of the ovary properly so called, the whole giving the impression of a small gourd of which the ovary will represent the tail part and the yellow body the free extremity. Generally the ridge corresponding to the plan of section of the two masses is plainly ascertainable. But at times it is impossible to fix the limits of the yellow body, the respective surfaces of the yellow body and of the ovary not presenting to the touch any solution of continuity. The presence of such a yellow body is indicated, then, by the considerable volume of the ovary and its much more spherical form than normal in one of its parts; this ovarian zone hardly preserving its elastic firmness, without fluctuation, which differentiates it from a cyst. The novice will sometimes have difficulty in differentiating a yellow body from a cyst. The doubt will be removed by pressing strongly on the ovary; the yellow body enucleated, either freely, giving it to the fingers the sensation of a detached nut, and which can be held in the fingers, free from the ovarian tissues, or by crushing the fingers then having the impression of a thick *purée* which is stretched and spread under their pressure. The cyst, on the contrary, will burst under pressure, giving the impression of a tube of liquid. There is the same difference between the tactile impressions in the two cases as in the auditive impressions which are produced by the enucleation of a stone fruit or the *crrr* which accompanies it, and the *pfftt* produced by the sharp rupture of a little rubber bladder filled with liquid.

The volume of cysts varies generally between that of a sparrow egg and that of a hen egg. Smaller and larger are however met with. When the volume of the fluctuating protuberance is near that of a pea or grain of maize, one cannot distinguish clinically a large hard follicle from a little cyst.

The cyst generally gives a sensation of fluctuation under a thin wall when it is, as generally the case, situated at the periphery of the ovary; but one may meet with central cysts which then give a sensation of deep fluctuation. The ovary at times seems to be completely invaded by a cyst; besides, several cysts may exist on the same ovary, giving it a muriform aspect. It is not rare to find both a yellow body and a cyst in the same ovary.

XUM

Ovarian tumours, abscesses and tuberculosis are very rare and should be easily recognised by volume, consistence, thickness of walls and neighbouring peritoneal reaction.

Persson, A.—Teat Obstructions.—*Svensk Veterinartidskrift*, Vol. 31, No. 2, 1926.

THIS Dutch veterinary surgeon describes a method of overcoming teat obstructions which is new. He has two small rollers of brass tubing, 2 cc. in diameter and 35 to 40 cc. long. Rubber tubing is slipped over the part to come in contact with the teat and there are handles fixed to the ends of each roller.

The subject to be acted on is cast on her side and the top hind leg drawn up and fixed so as to make the udder accessible. The teat canal is explored to see that it is open below the obstruction. The operator, from the front, then places the rollers as far up the teat as he can, so that as much milk as possible is caught between their situation and the obstruction. Two assistants hold the rollers so that no milk can escape upwards into the sinus, and the operator forces them down on the teat until there is very hard tension on the canal. The knuckles of the first and second finger of the hands are then pressed with force on each side of the teat over the compressed milk as the assistants force the rollers downwards. The obstruction generally breaks down and the milk is forced out through the teat orifice. The author says he has had both cures and favourable results from the procedure. We think that in certain cases success might ensue and the process certainly has the advantage of being an aseptic one.

Staheli, A.—Ovarian Implantation.—*Schweizer Archiv f. Tierheilkunde*: Oct. 15th, 1925.

THE abstract on page 327 in the June issue of THE VETERINARY JOURNAL having interested several of our readers it may be acceptable to give some further particulars of Stäheli's work. The following are details of four cases which are typical of the rest of those operated on by him.

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1. July 8th, 1922. Brown cow, seven years old, giving 15 litres of milk. Calved at the new year 1922, third calf, placenta voided normally. No signs of œstrum since this calving, seven months previously. Ovaries the size of a bean without ascertainable follicle and corpora lutea. Horns of the uterus index finger size. The administration of cantharides, together with uterine and ovarian massage, produced no effect. Implantation of an ovary provided with follicles from a five-year-old cow which had regularly been in season. Œstrum appeared on July 16th, or eight days after the implantation. The animal was served and conceived.

April 20th, 1923. Birth of a healthy living calf. Nine weeks after calving marked symptoms of œstrum occurred. The cow was served at her next heat, six weeks later. Conception followed. May 28th, 1924, birth of a healthy living calf. August 20th, 1924, œstrum. May 30th, 1925, birth of a healthy living calf. Implantation site has a lump the size of a button. *This cow, after a sterile period of seven months, thus again became pregnant and had in all three calves.* Amount of milk after calving : 18 to 20 litres.

2. January 11th, 1923. Brown cow, five years old, giving seven litres of milk. At the beginning of January, 1922, had her second calf. Afterbirth came away normally. *Since this calving* 12 *months ago no signs of œstrum.* Right ovary twice the size of a bean, left ovary bean size, both without palpable follicles and smooth. Horns of the uterus markedly atrophied, little finger size. Cantharides, yohimbin and massage were all tried without effect.

Implantation of a healthy ovary, provided with follicles, from a cow calved seven weeks previously.

January 25th, 1923. She became in season and was served 14 days after implantation. This cow came regularly in season every three weeks.

February 26th, 1923. Rectal examination showed : Horns of uterus thick as the thumb and rigid ; each ovary was the size of a plum and the right had distinct follicles.

May 6th, 1923, in œstrum and served. February 12th, 1924, birth of a healthy living calf. May 15th, 1924, in season 12 weeks after calving. Œstrum occurred regularly and normally. On July 18th, 1924, the animal was served. April 27th, 1925, second parturition after the implantation.

After 12 *months sterility the cow had again become fruitful.* Amount of milk after calving : 19 to 21 litres.

May 30th, 1925, nut-sized lump at site of implantation.

3. January 20th, 1923. Brown cow $4\frac{1}{2}$ years old, giving seven litres of milk. On April 4th, 1922, calved a second time. Cleansed regularly. After parturition the cow had come in season twice, but since the beginning of July, a period of $6\frac{1}{2}$ months, nothing had been seen.

Right ovary was about the size of a small cherry ; the left about the size of a bean, without palpable follicle or corpora lutea. Uterus markedly atrophied. Cantharides and massage useless.

Implantation of the ovary, with multiple follicles and yellow bodies, of a five-year-old cow.

January 26th, 1923, œstrum, covered after six days. End of October, 1923, birth of a healthy living calf.

XUM

January 5th, 1924, œstrum 10 weeks after birth, repeated every three weeks. As a result of epidemic disease the cow could not be served until July 2nd, 1924.

April 9th, 1925. Second calving of a living calf. This cow, after being sterile 6½ months again became fruitful. Amount of milk after calving : 20 litres.

May 25th, 1925. Button-sized implantation lump.

4. June 2nd, 1923. Brown cow, six years old, giving 14 litres of milk. Calved a second calf at beginning of May, 1922. Cleansed correctly. *Since calving for a period of* 13 *months had shown no signs of œstrum.* Right ovary size of a bean, left ovary small cherry size, both smooth on the surface. Horns of the uterus little finger size and atrophic. Cantharides powder and massage without effect. Implantation of a healthy plum-sized ovary with numerous follicles derived from a healthy four-year-old cow which had come in season regularly.

July 21st, 1923. Plain œstrum which was regularly repeated. *Time,* 19 *days after implantation.*

September 22nd, 1923, covered. June 12th, 1924, birth of a living calf. Twelve weeks later came in season. The animal was covered and is to-day (May 30th, 1925) about eight months pregnant. *After a sterile period of* 13 *months the cow had again become fruitful.*

May 30th, 1925. Nut-sized implantation lump.

Taking the whole of Stäheli's cases, amounting to 51, the time from the implantation to the occurrence of œstrum varied. The shortest time was three days, and the longest 84 ; whilst in five cases no visible effect occurred.

The author considers that his work shows that the implanted organ contains material which reawakens the function of the ovaries (stimulant material, hormones, etc.). The effect of this implanted material is so much the greater in accordance with the more functionally active the ovary is. Ovaries whose tissue has vanished through intracystic pressure on the albuginea occasion no signs of œstrum after implantation. It, therefore, follows that in the cystic fluid and in the albuginea no effective material is contained. It is found only in the stroma of the ovaries, as Steinach declares, and especially in the interstitial cells. The stimulation of the ovarian cells of the trial animals which is brought about by implantation of an ovary does not appear to be too great since no bad effects were ever shown. Indeed, two ovaries may be inserted, and sutured in, without the effect being too powerful.

Since the amount and the effect of the incretion of the ovaries varies very much, the stimulating effect of the ovarian cells of the test animals also varies.

For this and other reasons we cannot estimate dosage.

Implantation brings about a revival of the ovaries concerned and causes them to take up specific hormone production again.

Scott, L. P.—Lavage of the Stomach in Dogs.—*North American Veterinarian*, Mar., 1926.

Dogs sick enough to be brought in for stomach lavage do not as a rule oppose the ordeal enough to need restraint on the table. A wooden mouth gag with a hole through it to admit the tube is placed in the patient's mouth in just the same way as a bit is placed in the horse's mouth. This gag is held in place by a stout cord which extends from either end of the gag up and over the head as a bridle and back to the other end of the gag where it is tied securely in place. A piece of bandage is then tied around the dog's mouth to keep it closed tightly on the gag. The tubes used should be from three to five feet long and needless to say of different sizes. The size is determined by the size of the dog. For the average-sized Airedale a horse catheter answers very well, and French's stomach tube will be found convenient for nearly all cases. If the catheter is used a funnel may be attached to pour in the water. A pint or so of warm water (bicarbonate of soda and water preferred) is poured into the funnel and then by lowering the end to the floor the material is syphoned off.

Lavage per Rectum.

Another means of washing out the stomach and also the whole alimentary canal of dogs is by the introduction of the tube into the rectum and allowing the water to run slowly into the bowel until vomiting begins. (Salted water or other medication may be used. G.M.)

You have probably read descriptions of this operation by authors who recommend that the dog be hung up on the table with the head down. I have never found this necessary, but I prefer that the dog be loose on the table with an assistant holding the head so as to steady him. It is immaterial whether the dog is standing or lying on the table, but it is not essential for him to be subjected to the discomfort of being hung up by the hind legs.

To accomplish this lavage of the alimentary canal it is necessary first to rid the rectum and posterior bowels of any material present by means of an enema. Pass the tube gradually forward and at the same time compress the anus firmly about the tube to prevent the escape of water.

This is an excellent way also to diagnose the presence of worms, for there will always be some expelled by the vomiting if any are present, while the lavage itself rids the alimentary canal of quite a number. After the dog has started to vomit he will continue to do so at frequent intervals as long as the water continues to flow through the tube and in many instances the water will flow almost as fast from the mouth as it flows into the tube. To my knowledge the dog is the only animal where this feat may be seen.

Mikuscha, G.—Overdosing with Salicylates.—*Deutschosterreich Tierarzt: Woch*, Feb. 15th, 1926.

In surgical hours a ruby spaniel dog three years old was brought to me for examination. The dog had been taken to another veterinary surgeon because he showed pains in his limbs. A diagnosis of muscular rheumatism was given and six sodium salicylate powders prescribed. In order to save expense the owner had given the dog half a tube of aspirin tablets as well as the powders. Suddenly the animal had shown great exhaustion, vomiting and trembling, so that it became quite prostrate. Examination revealed severe exhaustion, dyspnœa, salivation, irregular pulse of 60, marked reflex irritation. *Diagnosis*: salicylic acid poisoning with aspirin. Therapy: excitants, fluid, oil of camphor subcutaneously, artificial nourishment. Next day the condition was far worse, the pulse was thready, 28 per minute, irregular, the reflex irritability had increased, movement of the underjaw with the finger caused spasms. The dog lay quite prostrate; the pupils distended to the maximum. Therapeutically I injected 80 minims of oil of camphor hypodermically and ordered artificial nourishment. The temperature was raised to 100¼° F. by means of warm packs.

On the third day of illness improvement occurred, the patient recovered quickly under the use of excitants. During the whole continuation of treatment the symptoms of vomiting were checked by antiemetics and nourishment given in teaspoonfuls. The illness lasted five days and is the first case of its kind I have seen.

Potekin.—Additional Treatment in Milk Fever.—*Revue Vétérinaire*, March, 1926.

Where animals are in a deep state of coma, Potekin supplements insufflation of the udder by hypodermic injections of adrenalin and oil of camphor and caffein. He also runs a hot smoothing iron along the back. He claims to have had much quicker recoveries by this method.

Auger, L.—Research into the Pathogeny of Milk Fever.—*Revue Générale de Médecine Vétérinaire*, July 15th, 1926, No. 415.

THE author writes that from information collected up to date, a new treatment of milk fever may be instituted. This consists in the injection of a glucosed solution. This injection may be given intravenously or subcutaneously, the former acting the more rapidly. Maguire injects 200 grammes of a 10 per cent. pure glucose solution. We advise the injection of the same quantity of a 20 per cent. solution. This injection is without danger; glucose in excess is eliminated by the urine. The rousing up of the animals is brought about, as in insufflation, at the end of a variable period; but generally a little more quickly, at the end of an hour or two. This treatment is simple. It is more refined than mammary insufflation

[Is it possible that this procedure heralds the dawn of a simpler and more effective treatment of eclampsia or puerperal convulsions in woman? If so, what a blessing it will be.—G. M.]

Abstracts from the Lay Press

THE M.O.H. AND VETERINARY CONFERENCES.

ONE conference that I hate to miss is that of the Veterinary Officers, and I was glad that I found an opportunity of looking in and seeing Alderman Phéné Neale at work in the presidential chair, and to hear Colonel Dunlop Young and other speakers on the question of imported meat. The Colonel's references to the use of shower baths for the Argentine cattle before slaughter and those of another speaker to the possible relation between refrigerated meat and the falling birth-rate appeared to cause some amusement. Our own conference, of course, I made a point of attending. Dr. Buchan's address from the chair was good and practical and helped the general discussion, which was a good controversial one on "Health Administration in Relation to Poor Law Reform and National Health Insurance." Here, as in the Preventive Medicine Section, the practice, recently adopted, of having a number of set speakers on a number of aspects of the subject was followed. That this arrangement has advantages it cannot be denied, but unless it is made absolutely clear to the various participants that they are not alone and that they need only deal with their own branch or aspect, and that quite shortly the proceedings tend to become prolonged and boring, while the

general discussion, which can be most valuable and interesting, becomes unduly short. In the Medical Officers of Health conference there is no doubt there were too many named contributors, and not all of them appreciated the necessity for and advantages of brevity. Personally, I should have liked to have heard more from the meeting and less from the platform, and one speaker, Mr. Lesser, Chairman of the London Insurance Committee, who obviously had much that was of value to say, was, to my mind, pulled up much too soon. All the same, it was a good discussion, and helped to show that the problem is one that will take a lot of solving, having regard to the number of conflicting interests. (*Municipal Engineering and the Sanitary Record*, July 15th, 1926.)

DISEASED MEAT—WHAT BELGIUM SENDS LONDON.

A GREAT deal of diseased meat was discovered in Stepney last year, according to the annual report of the medical officer of health, Dr. D. L. Thomas. He says:

"The attention of the Belgian authorities was directed to the importation of diseased meat into this country on six different occasions during 1925 and they were asked to arrange for the proper inspection of the meat before it was exported. At the end of 1925 these protests had no effect. On an average a ton and a half a day of unsound food is condemned."

Dr. Thomas said to a *Daily Mail* reporter:

"Because of our protests the Belgian authorities issued certificates that the meat had been properly inspected, but we found that no proper inspection was carried out. In some animals we found the lymphatic glands of the neck 100 times their normal size owing to tubercular disease.

"With regard to Dutch and Danish meat exports to this country we very rarely find disease when a certificate of inspection is given." (*Daily Mail*, July 22nd, 1926.)

Translations

EXPERIMENTAL PRODUCTION OF MILK FEVER.

Médecine Vétérinaire.

NOTE BY M. L. AUGER.

MILK fever is a malady which appears in cows recently calved. It is characterised by a progressive torpor ending in serious collapse with hypothermia. Despite its name, it is not, therefore, accom-

panied by fever. It appears suddenly. Often, in at least 50 per cent. of cases, if not treated, death occurs quickly ; but the surprising fact is that the cure is more rapid when one is called to treat a case far gone, and it amounts to a veritable resurrection. *It is a malady without either prodromes or convalescence.* It is seen chiefly in the cow. It is found, however, in the sheep, the goat and the sow ; yet in these species it is exceptional. It is a complaint of good milkers. Deep milkings, multiplied in the hours following calving, are considered by certain authors (Hoyas, Bru) and not without probability as we shall see, as a causative factor in producing the malady. Schmidt (1898) considering that milk fever is due to absorption of toxic products by the secretory acini, advises intra-mammary injections, well forced in, of a solution of potassium iodide. If the hypothesis has not resisted examination, it was at least fertile in its therapeutic results. Chance induced Evers (1903) to substitute a simple injection of air under pressure instead of the aqueous injection. This curious therapy lowered the mortality to 1 to 2 per cent.

By its clinical syndrome, by its therapy so strangely characterised as remarkably effective, milk fever presents itself as a univocal affection. What of its pathogeny and therapy ?

The successive hypotheses, whether ascribed to an intoxication to an infectious process, to the intervention of an anaphylactic shock, are not without weakness considering the surprising results of blowing up the gland with air ; they do not explain anything. We are under the necessity of casting about in another direction.

Researches with insulin have shown that injections of this substance whilst provoking hypoglycæmia, often lead to convulsive and comatose attacks. From this to assume that milk fever is a possible hypoglycæmia is only a step, a particularly interesting fact, for one sees at the back of this hypothesis the possibility of experimental production of the malady.

The normal conditions of lactation enable us to throw some light on the pathogeny of milk fever. The experiences, classic to-day, of Ch. Porcher have shown that with a view to the elaboration of lactose, it is necessary that the liver responds to the calls which the udder makes on it in the matter of transforming the glucose of the blood into sugar of milk (lactose). If the udder requires much, which is what occurs in good milkers, it pumps up glucose in such quantities, that it can bring about a notable decrease in the cypher of sugar in the blood. Hypoglycæmia follows it, and all its consequences ensue.

One understands now what Hoyas and then Bru have advanced : by multiplying milkings after parturition, by stripping out, one over-

hastens the secretion and thus exaggerates the call for the glucose of the blood by the udder, and this tends to produce hypoglycæmia. The mechanical tamponing of the udder by air causes an arrest of the secretion ; consequently more glucose to transform into lactose, the glucose remains in the blood, its cypher rises rapidly ; to hypoglycæmia normal glycæmia succeeds, and, indeed, hyperglycæmia. The alarming symptoms, so distressing that the percentage mortality of cows exceeds 50 per cent., disappear as if by magic.

The hypothesis that we formulate in this note has received first-hand experimental confirmation of an undoubted kind.

A cow 12 years of age, in good health, weighing 770 lbs., pregnant five months, giving five to six litres of milk, received in the auricular vein 570 clinical units (190 physiological units of insulin Byla). One hour after injection, the cow refuses to rise, is somnolent, eyes closed. These phenomena progress to reach their maximum between the third and fourth hour ; the head curved to the left side rests on the litter ; breathing is slow, stertorous, there is pharyngeal paralysis and ptyalism ; the initial temperature which was 38·4 C. is 37·9 C. We did not wait for the symptoms to go to the extreme, not wishing to sacrifice the animal and fearing for the life of the fœtus and with a view to obtaining rapid improvement instead of blowing up the udder with air we substituted a subcutaneous injection of 40 grammes of glucose in 20 per cent. solution, which brought about the disappearance of the alarming phenomena in five minutes.

At the end of this time the cow got up and began to eat ; the health remained perfect subsequently. The injection of insulin produced the phenomena of a characteristic attack of milk fever.

The experiences of Widmark and Carleus (Bioch. Zeitschrift 158, 1925, p. 3) made on the cow and milking goat have shown that Evers' technique brings about hyperglycæmia with its usual sequel, glycosuria. Our own researches corroborate those of these authors, and go to specify the part which the liver plays when this occurs in the presence of an udder whose functioning is thrown badly out of gear, a part to which Ch. Porcher had formerly called attention. The idea which has inspired them has enabled us to go further, and has led us to the experimental production of a malady which perplexed clinical minds by the strangeness of its evolution, and more still that of its treatment.

[Extract from *Comptes rendus des séances de l'Academie des Sciences.* Vol. 182, p. 348, sitting of Feb. 1st, 1926.]

Reviews

La Tuberculose des Carnivores Domestiques. By Professor J. Lesbouyries. Paris: Vigo Frères. Price 20 francs.

This is a most interesting little brochure of 140 pages on the subject of Tuberculosis of the Dog and Cat, and draws attention, in a very clear and marked manner, to the prevalence of this disease in these domesticated animals.

It is a book which every English veterinary surgeon who practises amongst the smaller animals, and who can read the French language, ought to possess; and the present time is particularly a good one for obtaining it on account of the favourable rate of exchange of the franc.

Until comparatively few years ago it was thought that tuberculosis was an uncommon malady in the dog and cat, and M. Lesbouyries, who is the "chef de clinique" at the Alfort Veterinary School, has done good work for his profession by collecting together within the cover of this volume, all literature on the subject up to date.

The credit for bringing the prevalence of tuberculosis in these animals to the notice of the profession rests, in the first place, with Professor Jensen of Copenhagen; and his work was closely followed up by Professor Cadiot of the Paris Veterinary School, who, in 1893, published a little brochure, "La Tuberculose du Chien," in which he gave a description of some 40 cases which had come under his notice during the short period of 22 months.

In 1905, at the International Congress on Tuberculosis, Professor Petit drew attention to the rapid growth of this disease amongst the dogs of Paris, estimating that from a proportion of 4.5 per cent. affected in 1899, it had risen in 1905 to exactly double, i.e., 9 per cent. From 1910-1913 Professors Petit and Germain found this disease present in 13.5 per cent. of dogs and 11 per cent. of cats in the *post-mortems* which came under their notice in the Pathological Department of the Veterinary School.

In 1906 Professors Sendrail and Cuille, of the Toulouse Veterinary School, estimated that the proportion of tuberculosis amongst the dogs and cats in that city was only about 1 per 1,000, and in 1913 they made the statement that they found it prevalent in about 8 per 1,000.

M. Lesbouyries contrasts these two statements, drawing particular attention to the extreme frequency of the disease amongst the dogs of Paris, and remarks that in this city, at any rate, it is undoubtedly on the increase.

Certainly, in so far as England is concerned, and London in particular, the proportion of tuberculosis amongst our sick dogs appears to be, judging from the publications on the subject, a comparatively small one; although it is possible that if statistics were carefully taken, we should hear of its existence in more instances than are reported in our professional journals at the present time.

M. Lesbouyries discusses the disease as it occurs respectively in the various organs of the body, and his illustrations of the pathological appearances of the affected bones and the periostitis it causes, both in the

dog and cat, are excellent; whilst the coloured plate of Tubercular Conjunctivitis in the cat is absolutely diagnostic.

With the thoroughness of an honest author, M. Lesbouyries has given a complete and lengthy bibliography of every contributor, and the title of his article, with full acknowledgments.

It is a book which should be on every veterinary surgeon's library shelf.

Precis de Chirurgie Veterinaire. By PROFESSOR CADIOT. Paris: Vigot Frères. Price 40 francs.

WHEN a book has reached its fifth edition, it is scarcely necessary to draw attention to the fact that it has been appreciated by the profession for which it is intended; and having brought this edition right up to date, Professor Cadiot has forged one more link in the chain of gratitude which the veterinary profession, not only of France, but of the whole world, owes to this enthusiastic author.

The book, which in its original form a number of years ago, was almost a pocket edition, and was intended as such, in order that the student might always have it with him for reference in the daily clinic, now occupies near 650 pages, and has become a veritable text-book.

It is written in simple language so that it can be readily understood by the junior student; and yet, its technical description is such, that it forms a work of ready reference for even the most experienced practitioner.

Its illustrations are splendid, and these alone form a mine of wealth.

Practically every operation, modern and otherwise, is dealt with, whether performed on the horse, cow, dog, cat, goat, sheep or pig; and even the bird is not forgotten.

We feel sure we are echoing the voice of the whole of the English-speaking veterinary profession when we congratulate the venerable Professor Cadiot on the success of this useful volume; and we hope that he may be spared a sufficient number of years to see the publishing of a further number of editions.

It is a book which should find a place on the shelf of every practitioner who makes any pretensions to the performance of surgical work.

Documents pour servir a l'Edification d'une Dermatologie Animale (Chien et Chat). By CH. LEBLOIS, Chef de Clinique à l'Ecole Nationale Vétérinaire d'Alfort. Vigot Frères. Paris, 1926. Pp. 155, 29 figs. Price 15 francs.

READERS of the *Rec. de Med. Vet.* will recognise the name of M. Leblois as a frequent contributor in collaboration with Prof. Henry. The present work is a collection of papers upon a few diseases of the dog and cat. After a short account of the signs furnished by the skin and coat, the manges, staphylococcosis, and eczema are dealt with in the dog. The manges of the cat, together with eczema, ringworm, and cutaneous lymph-adenitis, also receive attention.

It is a delightful little treatise, full of clinical teaching and new thoughts of an original and independent thinker. One might suppose that there is not a great deal that can be added to our knowledge of canine mange, yet M. Leblois shows that there is room for much research. He explains the difficulties of diagnosis, where to find the parasites, and that forty per cent. of cases are due to the parasite of feline mange, *Notœdres cati*. He chats to us on diagnosis; "there are no better masters than pupils, they

are without pity. They accept only that which they cannot destroy." ". . . Clinician. I have longed to make clinicians . . . have I succeeded?" "A puppy with squamosis is a mangy pup," are some of his *bon mots*. M. Leblois is to be congratulated on his little book. All English veterinarians who read French, will enjoy it and profit from a perusal of its pages.

Personal

THE Director of Agriculture, Punjab, in the Annual Report of Camel Specialists, writes: "I regret to state that Mr. Cross, Camel Specialist, formerly in charge of the laboratory, has finally retired on proportionate pension. He had the true scientific attitude of mind, and the training and ability to discover nature's secrets. Such men are rare and are of great value to the country. As stated last year, he has conferred a benefit of great magnitude on the province by his discovery of the Tartar Emetic cure for surra; by his discoveries that the parasite is transmitted by ticks; that buffaloes and goats are immune reservoirs, etc. etc., and by the wide field of work which he has opened up on surra and many other diseases of farm animals in this province. Our difficulty now is to find a suitable man to continue his work. At any time this would have been extremely difficult, and with the conditions of services for newcomers in the melting pot the task is very much harder."

Notices

THE PUBLIC ABATTOIR QUESTION AND VETERINARY INSPECTORS.

AT the recent Congress of the Sanitary Institute, held in London, the following Resolution, proposed by Alderman Phené Neal, and seconded by Professor Hobday, was unanimously carried:—

"That in the interests of public health it is eminently desirable that:—

1. Public abattoirs should be established throughout the country, thus superseding private slaughterhouses.
2. That animals intended for slaughter should be subjected both to *ante-* and *post-mortem* examination by the veterinary inspector of the district, prior to being passed as fit for human food."

HARPER ADAMS AGRICULTURAL COLLEGE, NATIONAL POULTRY INSTITUTE, CO-OPERATING.

THE following is the programme of papers to be read before the 10th Annual Poultry Conference.

Tuesday, August 10th, 1926; 2.30-4.15 p.m. Principal Charles Crowther, M.A., Ph.D., presiding. Dr. Charles Crowther: Address of

Welcome. "The Relationship of Science to the Present Day Poultry Industry." Mr. Edward Brown, F.L.S.: "The History of Poultry Husbandry's Claim for Recognition as a Great Agricultural Enterprise."

Reception and Social Evening at the New Administration Building on the National Institute of Poultry Husbandry Experimental Farm.

Wednesday, August 11th, 1926. Director Willard C. Thompson, B.Sc., presiding. 9.30-12.30 p.m. Mr. Tom Newman: "Another Viewpoint on Breeding for Egg-Production—Is Line Breeding Sufficient?" Mr. Marcus Slade: "The Practical Use of Sex-Linked Inheritance Crosses, and the Relation of these Crosses to the Present Day Poultry Industry." Mr. Herbert Howes presiding. 2.15-4.15 p.m. Professor Willard C. Thompson, B.Sc.: "The Fundamentally Important Features of Poultry Laying House Construction—Making the Modern Efficient Laying House." Mr. Charles Hunter: "Intensive Poultry Keeping, as a Practical System." 5 p.m., Conducted Visit to the National Institute of Poultry Husbandry Experimental Farm—all departments. A display of the Ministry of Agriculture film of the poultry industry, with the accompanying lecture, at the Picture House, Newport.

Thursday, August 12th, 1926. Vice-Principal T. J. Young, M.Sc., F.S.I., presiding. 9.30-12.30 p.m. Mr. Herbert Howes: "Milk as a Useful Supplement to Poultry Feeding—A Panacea for Poultry Ills." Dr. J. B. MacDougal: "Woolly Rabbits and Rabbit Wool—Angoras, a possible Side-line for Poultry Keepers." Principal Charles Crowther, M.A., Ph.D., presiding. 2.15-4.15 p.m. Professor Willard C. Thompson, B.Sc.: "The Economics of Artificial Illumination of Poultry Laying Houses—What may we Expect in Actual Results?" Mr. R. Borlase Matthews, M.I.E.E., F.R.A.E.S.: "The Mechanical Problems Involved in the Use of Artificial Lighting in Poultry Laying Houses."

VENEREAL LYMPHOSARCOMA OF THE DOG.

DR. MURRAY, Imperial Cancer Research Fund, 8-11, Queen Square, London, W.C.1, will be obliged if members of the profession who meet with cases of the above contagious disease of the dog will kindly send him specimens as soon as possible after removal. They should be wrapped in lint or cotton-wool which has been damped with water, and with no antiseptic or preservative whatever.

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